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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,378

07/03/2003

Abdurrahman Sezginer

TWI-32410

7200

28584

7590

04/19/2006

STALLMAN & POLLOCK LLP
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EXAMINER

STOCK JR, GORDON J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,378

Applicant(s)

SEZGINER ET AL.

Examiner

Gordon J. Stock

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/19/06;2/7/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 19, 2006 has been entered.

Claim Objections

2. **Claim 1** is objected to for the following: "the lateral offset" of line 7 lacks antecedent basis. Examiner suggests 'a lateral offset.' Correction is required.
3. **Claim 2** is objected to for the following: the claim lacks a period at the end. Correction is required.
4. **Claim 5** is objected to for the following: 'the plane' lacks antecedent basis. Examiner suggests 'a plane.' In addition, 'the wafer' lacks antecedent basis. Examiner suggests using 'the semiconductor wafer.' And in claim 1 line 2 Examiner suggests using 'a semiconductor wafer.' Corrections required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-4** are rejected under 35 U.S.C. 102(e) as being anticipated by **Yang et al.** (6,982,793).

As for **claims 1-2**, Yang discloses an overlay target comprising; first and second test patterns, each including an upper grating layer and a lower grating layer, each grating layer including a series of substantially parallel lines, the upper grating lines of each test pattern aligned to be substantially parallel to the lower grating lines of the same test pattern, each test pattern having an associated offset bias defined by a lateral offset, D and $-D$, of the upper and lower grating layers of the test pattern, where a single pitch is used for all gratings in all test patterns (Fig. 2: 102, 104; col. 8, lines 65-67; col. 9, lines 1-20); where the difference between the offset bias of the first test pattern and the offset bias of the second test pattern is substantially equal to the line pitch divided by four, wherein the magnitude of the offset bias of the first test pattern is equal to the line pitch divided by 8, 12.5 percent of the line pitch, for the offset are from 5 to 40 percent of the pitch (col. 10, lines 40-45); whereby the combined optical response to the measurement of the first and second test patterns is sensitive to all values of overlay alignment (col. 9, lines 15-35; col. 2, lines 1-10).

As for **claims 3-4**, Yang discloses everything as above (see claim 1). In addition, the upper and lower gratings lines of the first test pattern are substantially parallel to the upper and lower grating lines of the second test pattern (Fig. 2: 102-108). In addition, he discloses a third test pattern, including an upper grating layer and a lower grating layer, each grating layer including a series of substantially parallel lines, the lines of the upper and lower gratings of the third test pattern aligned to be substantially parallel to each other, where the lines in the third test

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pattern are spaced at the same pitch used for the first and second test patterns (Fig. 14: 206 as the third test pattern with 202 and 204).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yang et al.** (6,982,793).

As for **claim 5**, Yang discloses everything as above (see **claim 1**). In addition, he discloses three test patterns in three different angular orientations (Figs. 31-33). However, he does not disclose the specific offsets of the patterns (col. 25, lines 10-45) having at least two of the test patterns having an offset difference equal to the line pitch divided by four. However, he teaches the magnitude of the offset bias of a first test pattern is equal to the line pitch divided by 8, 12.5 percent of the line pitch, for the offset are from 5 to 40 percent of the pitch (col. 10, lines 40-45); whereby the combined optical response to the measurement of the first and second test patterns is sensitive to all values of overlay alignment (col. 9, lines 15-35; col. 2, lines 1-10). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the offset difference be 25 percent of the pitch, for offsets of 12.5 percent falls within the range of 5 to 40 percent of offsets used that provide test patterns a combined optical response for overlay measurement that is sensitive to all values of overlay alignment.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 6,947,141 to Bischoff et al.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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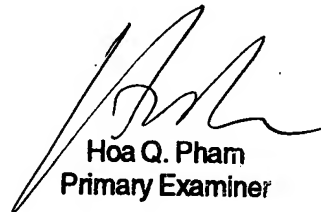
system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gs

April 6, 2006

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877



Hoa Q. Pham
Primary Examiner